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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/767,112	01/28/2004	Kevin Eugene Dombkowski	LUC-458/Dombkowski 10-8-5	4421
47382	7590	06/27/2007	EXAMINER	
PATTI , HEWITT & AREZINA LLC ONE NORTH LASALLE STREET 44TH FLOOR CHICAGO, IL 60602			MARCELO, MELVIN C	
		ART UNIT	PAPER NUMBER	
		2616		
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		06/27/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/767,112	DOMBKOWSKI ET AL.	
	Examiner	Art Unit	
	Melvin Marcelo	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 28 January 2004.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-6, 11, 12 and 14-21 is/are rejected.
- 7) Claim(s) 7-10 and 13 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 28 January 2004 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____. | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

Claim Rejections - 35 USC § 101

1. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claim 21 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 21 is directed to a "computer-readable signal-bearing media" which is defined in the specification, page 13, lines 6-10, as a "modulated carrier signal." The modulated carrier signal is non-statutory since it is not an apparatus nor an article of manufacture.

Examples of acceptable language in computer-processing related claims :

1. "computer readable medium" encoded with _____
 - [a] "a computer program"
 - [b] "software"
 - [c] "computer executable instructions"
 - [d] "instructions capable of being executed by a computer"
2. "a computer readable medium" _____ "computer program"
 - [a] storing a
 - [b] embodied with a
 - [c] encoded with a
 - [d] having a stored
 - [e] having an encoded

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-6,11,12 and 14-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Perkins et al. (US 6496477 B1).

Perkins teaches the packet replication router for providing path diversity for VoIP packets (Figure 10 and column 23, line 35 to column 24, line 3). With respect to the claims below, references to the prior art appear in parenthesis.

Claims

1. *An apparatus, comprising:*

a router for one or more packets that comprise an Internet Protocol ("IP") packet (Router 1011 in Figure 10);

wherein the router comprises one or more packet replication components that employ the IP packet to propagate a plurality of copies of the IP packet (Router copies IP packet and routes the copies to diverse paths 1021 and 1031 in column 23, line 35 to column 24, line 3).

2. *The apparatus of claim 1, wherein the router receives the IP packet, wherein the one or more packet replication components comprises a packet replication component that employs the IP packet to generate the plurality of copies of the IP packet (Router 1011 replicates packets in column 23, lines 42-48).*

3. *The apparatus of claim 2, wherein the plurality of copies of the IP packet comprise a first copy and a second copy of the IP packet;*

wherein the IP packet comprises an IP header, wherein each of the first copy and the second copy of the IP packet comprise a copy of the IP header (Whole packets which include the header are replicated in column 23, lines 42-48).

4. The apparatus of claim 3, wherein both the first copy and the second copy of the IP packet are associated with a single IP address (Single source SRC 811 and single destination DST in Figure 10 constitutes a single IP address since the source and destination are the same for the copies).

5. The apparatus of claim 2, wherein the plurality of copies of the IP packet comprise a first copy and a second copy of the IP packet;

wherein the router (Router 1011 includes the interface block of Figure 4 with outputs A, B, etc... in column 23, lines 44-49) comprises a first switch fabric (Interface block/output A constitutes a switch fabric for switching the packet copy to the particular path) and a second switch fabric (Interface block/output B constitutes a second switch fabric for switching another packet copy to a diverse path from the first);

wherein the packet replication component sends the first copy to the first switch fabric (Packet copy A to output A), wherein the packet replication component sends the second copy to the second switch fabric (Packet copy B to output B);

wherein the first switch fabric routes the first copy through a first path to an intended destination of the IP packet, wherein the second switch fabric routes the second copy through a second path to the intended destination of the IP packet (Diverse paths associated with outputs A and B in column 23, lines 42-49).

6. The apparatus of claim 5, wherein upon a transmission failure in one of the first path or the second path, the router continues propagation of one of the first copy or the second copy to the intended destination on an available one of the first path or the second path (Path diversity (column 3, line 61 to column 4, line 29) in order for the router to provide at least one copy to the destination in event of transmission failure (column 23, line 35 to column 24, line 3)).

11. The apparatus of claim 1, wherein the IP packet is associated with a real-time application (Real-time information in column 2, lines 14-24), wherein the router contemporaneously propagates the plurality of copies of the IP packet to promote an increase in likelihood that at least one copy of the plurality of copies of the IP packet arrives at the real-time application (Router 1011 in Figure 10).

12. The apparatus of claim 1, wherein the router comprises a packet selection component that receives two IP packets and chooses one of the two IP packets for propagation (Packet loss due to congestion (column 3, line 61 to column 4, line 3) is the result of a router selection component choosing one IP packet for propagation over another IP packet which becomes lost).

14. The apparatus of claim 1, wherein the router comprises a duplex edge router, the apparatus further comprising a duplex core router (Replication/path diversity functions may be implemented at edge devices/duplex edge router and inside the cloud router/duplex core router in column 5, line 52 to column 6, line 8); wherein the plurality of copies of the IP packet are associated with a single IP address (Single source SRC 811 and single

destination DST in Figure 10 constitutes a single IP address since the source and destination are the same for the copies); wherein the duplex edge router contemporaneously propagates the plurality of copies of the IP packet to the duplex core router (Edge device router outside the Internet cloud is associated with a corresponding inside the cloud duplex core router).

15. The apparatus of claim 1, wherein the one or more packet replication components comprise a packet replication component that receives the IP packet; wherein the packet replication component propagates the plurality of copies of the IP packet, wherein the plurality of copies of the IP packet comprise the IP packet received by the packet replication component and one reproduction of the IP packet (Whole packets are replicated without decoding and recoding (column 23, lines 42-44) such that the actual packet and the reproduction are identical--they are both the actual packet received and a reproduction).

16. A method (Router 1011 implementing the replication/path diversity function in column 23, line 35 to column 24, line 3), comprising the steps of:

receiving an IP packet (Packet from gateway 813);

generating a plurality of copies of the IP packet, wherein the plurality of copies of the IP packet comprise a first copy of the IP packet and a second copy of the IP packet (Copies associated with outputs A, B...);

propagating the first copy of the IP packet through a first path to an intended destination of the IP packet (Diverse path with proxy 1021); and

propagating the second copy of the IP packet through a second path to the intended destination of the IP packet (Diverse path with proxy 1031).

17. *The method of claim 16, wherein the IP packet is associated with a real-time application (Real-time information in column 2, lines 14-24), wherein the step of propagating the second copy of the IP packet through the second path to the intended destination of the IP packet comprises the step of: propagating the second copy of the IP packet through the second path different than the first path to promote an increase in likelihood that at least one copy of the plurality of copies of the IP packet arrives at the real-time application (Router 1011 in Figure 10).*

18. *The method of claim 16, wherein the step of propagating the first copy of the IP packet through the first path to the intended destination of the IP packet (Router 1011 implementing the replication/path diversity in column 23, line 35 to column 24, line 3) comprises the steps of:*

sending the first copy of the IP packet to a first packet selection component (Interface port A in Figure 4);

selecting the first copy of the IP packet from one or more available IP packets at the first packet selection component for passage to a first IP switch fabric (Switch fabric associated with output A); and

routing the first copy from the first IP switch fabric through the first path to the intended destination of the IP packet (First path associated with proxy 1021 in Figure 10);

wherein the step of propagating the second copy of the IP packet through the second path to the intended destination of the IP packet comprises the steps of:

sending the second copy of the IP packet to a second packet selection component (Interface port B in Figure 4);

*selecting the second copy of the IP packet from one or more available IP packets at the second packet selection component for passage to a second IP switch fabric (**Switch fabric associated with output B**); and*

*routing the second copy from the second switch fabric through the second path to the intended destination of the IP packet (**Second path associated with proxy 1031 in Figure 10**).*

*19. The method of claim 16, wherein the IP packet comprises an IP header, wherein the step of generating the plurality of copies of the IP packet comprises the steps of: generating the first copy of the IP packet that comprises a copy of the IP header; and generating the second copy of the IP packet that comprises a copy of the IP header; associating both the first copy and the second copy of the IP packet with a single IP address (**Single source SRC 811 and single destination DST in Figure 10 constitutes a single IP address since the source and destination are the same for the copies**).*

20. The method of claim 16, wherein the step of propagating the first copy of the IP packet through the first path to the intended destination of the IP packet comprises the step of:

*selecting the first copy of the IP packet from the plurality of copies of the IP packet for contemporaneous propagation with the second copy of the IP packet to the intended destination of the IP packet (**Copy A to path associated with proxy 1021**);*

wherein the step of propagating the second copy of the IP packet through the second path to the intended destination of the IP packet comprises the step of:

*selecting the second copy of the IP packet from the plurality of copies of the IP packet for contemporaneous propagation with the second copy of the IP packet to the intended destination of the IP packet (**Copy B to path associated with proxy 1031**).*

21. An article, comprising: one or more computer-readable signal-bearing media; means in the one or more media for receiving an IP packet; means in the one or more media for generating a plurality of copies of the IP packet, wherein the plurality of copies of the IP packet comprise a first copy of the IP packet and a second copy of the IP packet; means in the one or more media for propagating the first copy of the IP packet through a first path to an intended destination of the IP packet; and means in the one or more media for propagating the second copy of the IP packet through a second path to the intended destination of the IP packet
(Packet replication and path diversity described in column 23, line 35 to column 24, line 3 may be implemented as software in column 37, lines 52-54).

Allowable Subject Matter

5. Claims 7-10 and 13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melvin Marcelo whose telephone number is 571-272-3125. The examiner can normally be reached on Mon-Fri 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on 571-272-3134. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2616

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Melvin Marcelo
Primary Examiner
Art Unit 2616

June 25, 2007